Geometry

Name ANSWER KEY

Per. _____ Date _____

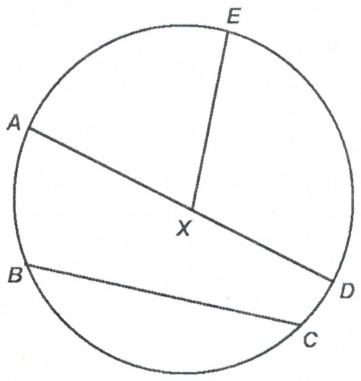
Unit 12 Circles Review Packet

Unless otherwise directed, please round all answers to the nearest tenth place.

Directions: In the box provided next to each target section, put an (S) if you were able to complete the section by *yourSELF*, an (H) if you received a *minimal* amount of *HELP* from me, a classmate, or another source, or a (D) if you felt the section was *DIFFICULT* and required you to get *a lot* of help. This will help provide you by giving you feedback as to what topics you should be focusing on as you prepare for the test.

TARGET A - Parts of a Circle

For #1 – 4, use the picture below to answer the following questions about $\odot X$



1) Name the center of the circle X

2) Name 3 radii $\overline{XA}$, $\overline{XE}$, $\overline{XD}$

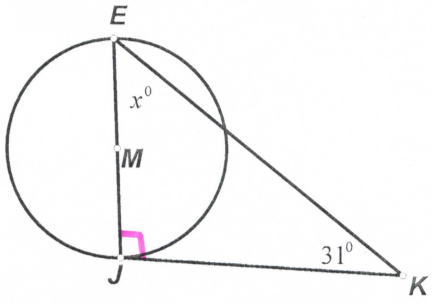
3) Name the diameter $\overline{AD}$

4) Name a chord that is not a diameter $\overline{BC}$

TARGET B - Tangents

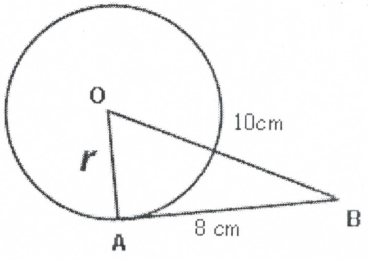
5) $\overline{KJ}$ is tangent to circle M at J (not drawn to scale).

Find the value of x.



x = 59^0

6) $\overline{BA}$ is tangent to circle O at B. Find the measure of the radius if $\overline{BO} = 10\ cm$



$r^2 + 8^2 = 10^2$

$r^2 + 64 = 100$

$r^2 = 36$

$r = 6$

r = 6

TARGET C – Angles and Arcs

7) Find the measure of each arc in circle X. $m\angle DXB = 90^\circ$

a. $m\overset{\frown}{TC}$ 141°

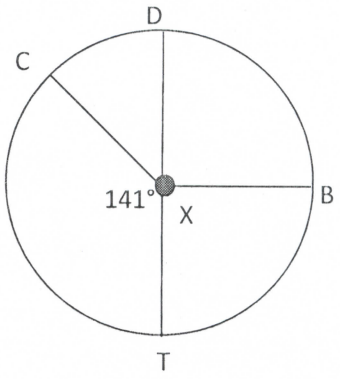
b. $m\overset{\frown}{TBD}$ 180°

c. $m\overset{\frown}{BTC}$ 231°

d. $m\overset{\frown}{CD}$ 39°

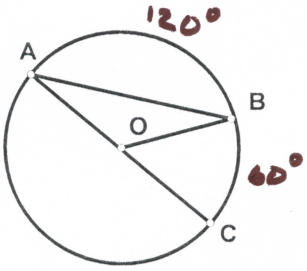
e. $m\overset{\frown}{CBD}$ 321°

f. $m\overset{\frown}{TCD}$ 180°



TARGET D – Inscribed Angles and Arcs

8) In circle O, $m\overset{\frown}{BA} = 120^\circ$. Find $m\angle A$.



$m\angle A =$ 30°

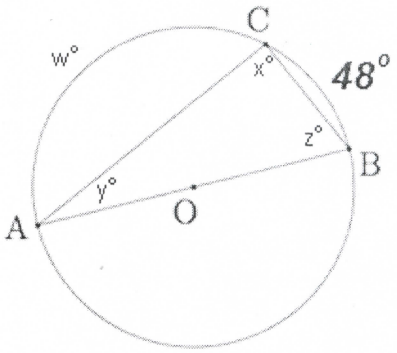
Use the diagram for 9 through 12 A child's toy is designed with a **triangle** inscribed in a circle. $\overline{BA}$ is a diameter. Find each variable.

9) $x^\circ =$ 90°

10) $y^\circ =$ 24°

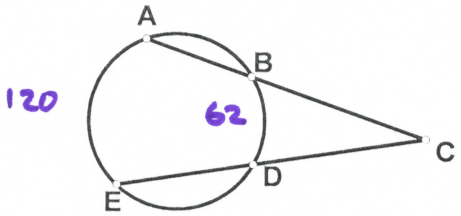
11) $z^\circ =$ 66°

12) $w^\circ =$ 132°



TARGET E – Angles formed by Chords, Secants and Tangents

13) If $m\overset{\frown}{AE} = 120$ and $m\overset{\frown}{BD} = 62$, find $m\angle C$.



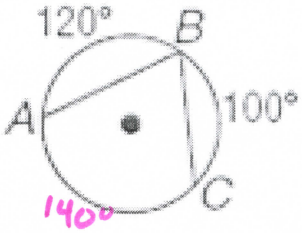
$\angle C = \frac{120 - 62}{2}$

$= \frac{58}{2} = 29°$

$m\angle C =$ 29°

14) Find $m\angle ABC$

$\angle ABC = 70°$

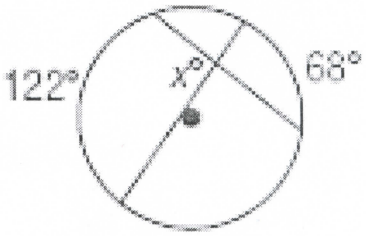


15) Find the value of x

$x = \frac{122 + 68}{2}$

$x = 95°$

$= \frac{190}{2} = 95°$

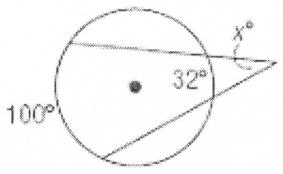


16) Find the value of x

$x = \frac{100 - 32}{2}$

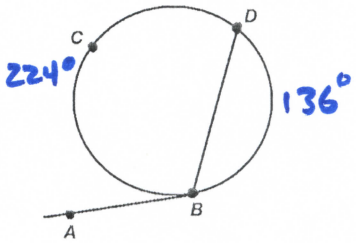
$x = 34°$

$= \frac{68}{2} = 34°$



17) If $m\overset{\frown}{BD} = 136°$, find $m\angle ABD$

$\angle ABD = 112°$



TARGET F – Equations of a Circle

For #18 – 20, find the center and radius of each circle.

18) $x^2 + y^2 = 36$

c = (0,0)

r = 6

19) $(x-2)^2 + (y-7)^2 = 49$

c = (2,7)

r = 7

20) $(x+1)^2 + (y+6)^2 = 16$

c = (-1,-6)

r = 4

For #21 – 23, write the equation of the circle with the given center and radius.

21) center (0, 0); $r = 7$

$x^2 + y^2 = 49$

22) center (4, 3); $r = 8$

$(x-4)^2 + (y-3)^2 = 64$

23) center (5, 3); $r = 2$

$(x-5)^2 + (y-3)^2 = 4$

For #24-36, find the center and the radius. Then graph the circle.

24) $x^2 + y^2 = 25$

center (0,0)

radius 5

25) $(x-3)^2 + (y-4)^2 = 9$

center (3,4)

radius 3

26) $(x+2)^2 + (y+4)^2 = 1$

center (-2,-4)

radius 1